Catalogue no. 81-595-M — No. 055
ISSN 1711-831X
ISBN 978-0-662-48389-2

Research Paper

Culture, Tourism and the Centre for Education Statistics

High School Dropouts Returning to School

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Culture, Tourism and the Centre for Education Statistics
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Mélanie Raymond
Human Resources and Social Development Canada

Published by authority of the Minister responsible for Statistics Canada

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April 2008

Catalogue no. 81-595-MIE2008055

Frequency: Occasional

ISSN 1711-831X

ISBN 978-0-662-48389-2

Ottawa

Cette publication est disponible en français (nº 81-595-MIF2008055 au catalogue)

Statistics Canada

Acknowledgements

The author wishes to thank Maud Rivard, Marie-France Paquet and Benoît Robidoux for helpful comments as well as Danielle Shaienks and her team for answering questions about the YITS survey and their support.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Acronyms

The following acronyms are used in this publication:

CEGEP	Collège d'enseignement général et professionnel
LFS	Labour Force Survey
LPM	Linear probability model
PSE	Postsecondary education
YITS	Youth in Transition Survey

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1. Introduction

Workers with no high school diploma tend to have greater difficulty securing a well-paying job and also tend to be more vulnerable to economic shocks. Their wages are on average lower than those of workers with a high school diploma (Ferrer and Riddell, 2002) and their unemployment rate has been five to six percentage points above both the national average and the rate for high school graduates throughout the 1990s and early 2000s.[1] Yet, in 1999, 15% of young men and 9% of young women aged 20 (the 1979 birth cohort) had not completed high school (Bowlby and McMullen, 2002).[2]

Dropouts can return to high school and can even enter college directly after completing an academic upgrading program in some provinces. This is facilitated by provinces and institutions by what is often referred to as a "second chance system." Some 20% of the 1979 birth cohort dropouts took advantage of the second chance system in 2000 or 2001.[3] A variety of factors can motivate a return to school, including parental pressures, recognition of the economic benefits obtained from the completion of a diploma and disappointing labour market experiences. Alternatively dropouts may have left school with the intention of returning to further their education, i.e. dropping out is meant as a temporary absence from school. Dropouts may find themselves in a situation that leads them to leave school even though they wish to complete high school and potentially, a postsecondary diploma. Personal circumstances, family situation and temporary difficulties of either an academic or financial nature may all make it almost impossible to attend school, forcing them to leave school temporarily.

More female dropouts take advantage of the second chance system then their male counterparts: among the 1979 birth cohort, 27% of female dropouts returned in the 2000-2001 period versus 23% of male dropouts. The gender differences are much larger among the dropouts of younger cohorts for the same period. Among the 1980 and 1981 cohorts, about 40% of young women returned to school compared to between 20% and 30% for young men.[4] This gender gap in returns to school may be the product of differences in school-return aspirations at the time of dropping out. Young women may be leaving school more often due to outside forces than personal desire and therefore have greater motivation to return to school. This paper tests this hypothesis by looking at postsecondary aspirations, pre- and post-dropout.

Examining the factors that hinder or enable young dropouts to return to school can shed light on possible areas for improvement to the schooling system. Different policy responses may be required to address dropping out by young men and young women, for example. If women are leaving school in spite of a desire to complete, but are faced with barriers or other problems, then policy might address the barriers. On the other hand, if men leave school because they have low aspirations, then policy might be aimed at raising their aspirations.

Only a few studies have examined trends in, and the determinants, of dropping out in Canada and only one addresses school returns by dropouts (Bushnik et al 2004). Gender differences tend to be noted but the underlying causes are rarely explored. The present work investigates the phenomenon of return-to-school, by gender. It makes use of the Labour Force Survey to establish the trends over the last 15 years and the longitudinal Youth in Transition Survey to analyze the determinants of returning to school. The Youth in Transition Survey constitutes an ideal dataset to study the return to school in that it clearly identifies high school dropouts at one point in time and documents their schooling status two years later. It contains information about the family background, reasons for dropping out, personal aspirations, and an extensive academic history.

The analysis finds that very few factors influence young women's decisions to return, namely the circumstances that brought them to leave school in the first place, their aspirations for obtaining a postsecondary education (PSE), and the time elapsed since they left school. On the other hand, young men's return to school depends on their labour experience, past academic experience and decisions, along with postsecondary aspirations. For both women and men, results suggest that a major determinant of returning to school is whether the absence from school was considered temporary, as captured by their long-term postsecondary aspirations.

The paper proceeds as follows. It first presents dropout rates by gender over time and attempts to establish the predominance of returns. The next section outlines the decision to return to school in the context of economic theory. It then describes the Youth in Transition Survey dataset used for the analysis. Section V presents some descriptive statistics, then the analytical results and some information about the success of the returns. The paper concludes with some final observations and possible future research directions.

2. Trends in high school dropout and return rates

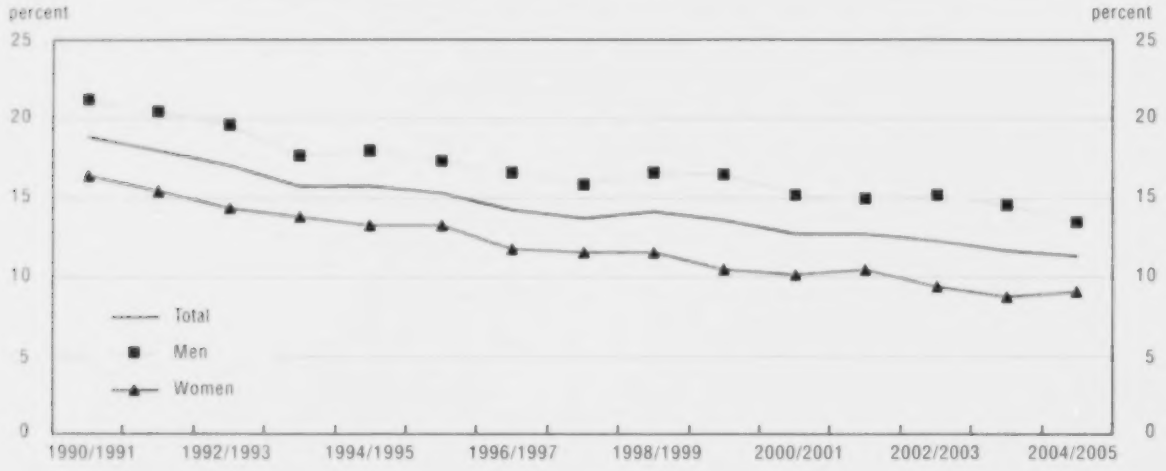
Measuring dropout and return rates is a difficult task. The education information that is available and coverage vary from survey to survey and these variations inevitably lead to different rates. The trends presented here come from a special tabulation of the Labour Force Survey of Statistics Canada for the age group 20 to 24. The data span the academic years from 1990/1991 to 2004/2005.[5] Looking at 20 to 24 year-olds as opposed to a younger age group allows the observation of individuals after the normal time for high school graduation. Individuals in this age group are more likely to return to school than older ones. A dropout is identified on the basis of the survey questions about having obtained a high school diploma as opposed to the highest diploma or degree completed. Anyone who responded that they had not obtained a high school diploma and who was not attending school is defined as a dropout. Whether the respondent obtained further education above high school is irrelevant to the present definition — if the respondent was attending any type of school, including a postsecondary institution, the respondent was excluded from the sample of dropouts. A more complete discussion of definitions and some further trends are presented in Appendix 1.[6]

Given that educational attainment has increased over time in Canada, the proportion of Canadians without a high school diploma and not attending school should have decreased. Chart 2.1 depicts the dropout rate trends, defined as the proportion of high school leavers not attending school among 20 to 24 year-olds by gender for the academic years 1990/1991 to 2004/2005. The dropout rate steadily declined over the period from 21% to 14% for men and from 16% to 9% for women, a drop of seven percentage points in both cases.[7] This decline may result from both fewer youth leaving high school without graduating and a greater number of dropouts returning to complete their high school diploma before the age of 24.

Indeed, some high school leavers return to school. Chart 2.2 presents the proportion of dropouts that returned to attend school in a given academic year, independently of what type of school, i.e. high school, community college or other. These individuals were excluded from the dropout rates shown in Chart 2.1 since they were attending school. The proportion attending school was 10% and 12% for men and women, respectively, for the 1990/1991 academic year. This proportion nearly doubled for women, reaching 22%, and increased by 60% for men, reaching 16%, in 2004/2005. It should be noted that the enrolment data capture a wide range of courses and programs. Individuals may be taking only one course and not intend to obtain a certification. However, it can be noted that between 60% and 80% of students are attending full time in any one year. Students seeking a certificate or a diploma are probably more likely than those only enroled for one course to take up school full-time.

Chart 2.1

High school dropout[1] rate among 20 to 24 year-olds, academic years 1990/1991 to 2004/2005

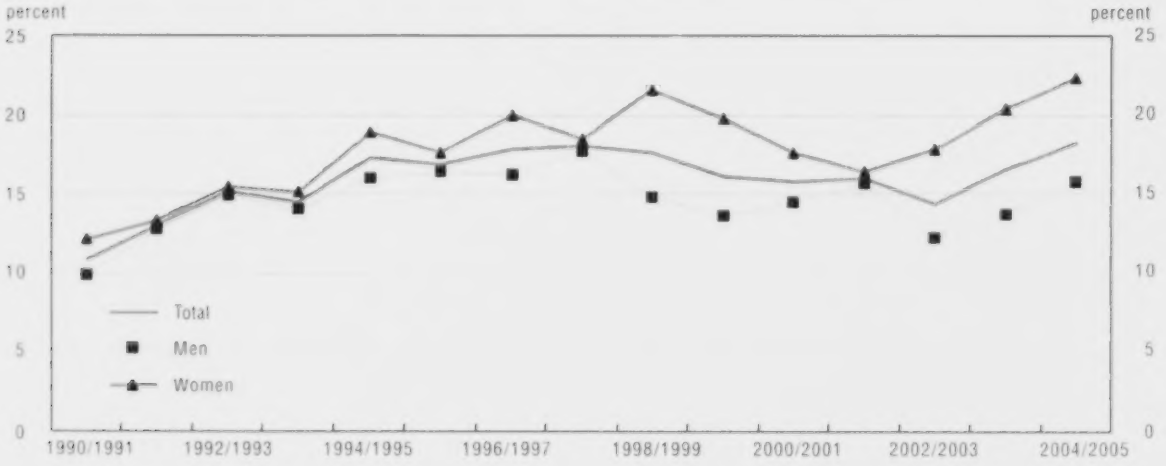


1. Defined as an individual without a high school diploma who is not attending school.

Source: Labour Force Survey, Statistics Canada.

Chart 2.2

Return-to-school rates among high school leavers[1] aged 20 to 24, to any type of school, academic years 1990/1991 to 2004/2005

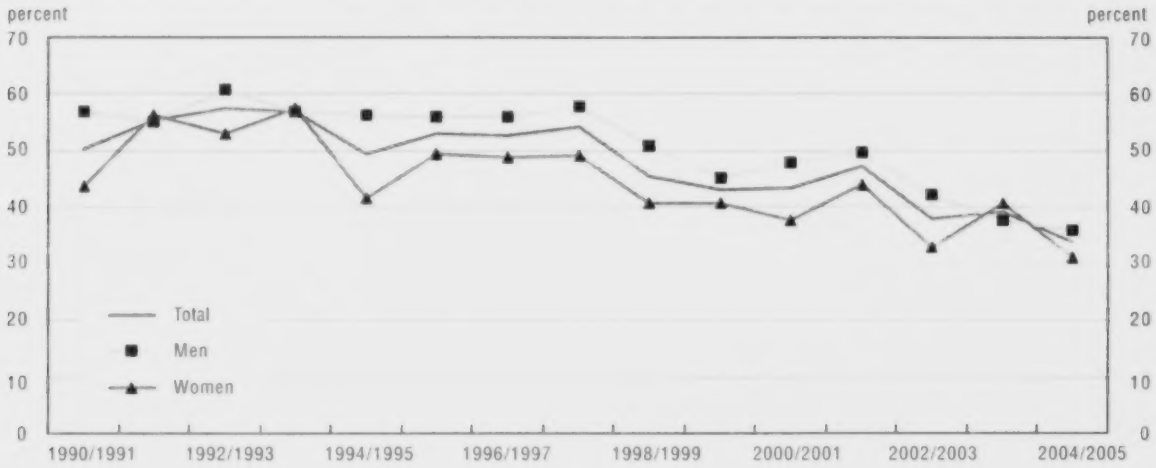


1. Defined as an individual without a high school diploma, with or without a postsecondary diploma or degree.

Source: Labour Force Survey, Statistics Canada.

As a greater proportion of leavers return to school, fewer return to complete their high school diploma, instead choosing to seek a postsecondary diploma or degree. Chart 2.3 shows the proportion of those attending a primary or secondary school among all the returnees.[8] For men, this proportion held more or less steady at 57% until 1997/1998 and then declined to 36% in 2004/2005. For women, the same proportion oscillated throughout the period with a downward trend, declining from 44% to 31%. Over time, returnees were less likely to enter college programs and enroled more in other types of programs, including trade and vocational education.[9]

Chart 2.3
Proportion of returnees aged 20 to 24 attending primary or secondary school, academic years 1990/1991 to 2004/2005



Source: Labour Force Survey, Statistics Canada.

The above trends reveal that fewer women leave high school without completing their diploma and that they also go back in greater proportions. As the descriptive statistics below will show, data from the Youth in Transition Survey for 18 to 20 year-olds show similar trends. Do women drop out for different reasons, more often involuntarily leave school and thus wish more to return to school? The next section reviews the literature on the determinants of dropping out in general and discusses the notion of involuntary dropouts before discussing the known differences between female and male dropouts.

3. The decision to return to school

3.1 Basic framework

Dropping out is largely characterized in the economics literature as the result of a rational decision.[10] Individuals consider the benefits and costs of continuing school (i.e. to continue and complete their high school diploma versus to leave school). This rational decision is driven by low academic ability (lower benefits), low expectations about the rewards of further education (lower benefits), and appealing local work opportunities (higher opportunity costs). Eckstein and Wolpin (1999) identify two types of dropouts: the academically weak who drop out early on and those with low expectations about the rewards from graduation who may drop out as late as in their last year of high school.[11] They argue that dropouts have a comparative advantage – the type of abilities and interests, for example manual skills or interest in physical work – for the jobs they obtain with the level of schooling they have. It implies that young adults decide to drop out of school to take up employment that requires the type of skills that they have (without further education). These decisions are based on local labour market conditions, including the minimum wage and the work opportunities accessible at the time to young decision makers (Eckstein and Wolpin, 1999; Chaplin et al., 2003; in Canada, Parent, 2006). Some recent evidence suggests, however, that high school students' decisions have become less sensitive to work opportunities and more to wage premiums over the 1990s (Ferrer and Lauzon, 2005).

All the previously-cited studies also find some influence of personal and family backgrounds on the decision to drop out. Dropouts are more likely to come from a single-parent household, from a low-income family and/or from a family where the parent does not have a postsecondary diploma or degree. Oreopoulos et al (2003) show that parental education captures more than just parental ability, which could be inherited by children, by using compulsory schooling laws as instrument. Their findings imply that independently of ability, educated parents stress the importance of education to their children. With a lower appreciation of schooling, dropouts exhibit lower schooling aspirations and are more likely to engage in delinquent behaviour like drinking (descriptive work in Canada, Bowlby and McMullen, 2002; Chatterji and DeSimone, 2005). It is furthermore noteworthy that future dropouts exhibit these characteristics as early as age 15 and several months prior to leaving school (Bushnik et al., 2004).

The above rational decision framework implicitly assumes perfect information and perfect credit markets. Lack of information may lead to an erroneous valuation of the net benefits of graduating from high school, while borrowing constraints may force dropping out to work. As individuals acquire new information about the benefits and costs of schooling, they may reconsider their decision and decide to return to school. Similarly, individuals may build their credit or savings to relax

borrowing constraints. The Becker model of human capital investment can be modified to include such schooling pathways by incorporating imperfect information and borrowing constraints (Becker, 1962).[12] Upon the acquisition of new information or loosening of borrowing constraints, individuals can reconsider their past decision and may reverse it. Altonji (1993) uses this augmented model to explain change in field of study or occupational choice and Light (1995), to explain schooling interruptions between high school graduation and postsecondary schooling. Various studies have investigated the effect of borrowing constraints – referring to the case where the individual does not have the financial resources to study and does not have access to sufficient credit, whether a governmental loan or private credit from a bank – on postsecondary educational attainment (see for example, Keane and Wolpin, 2001).

In a model which incorporates incomplete information and borrowing constraints, individuals may leave school without graduating and may later return to school based on new information or new financial resources. The present analysis only focuses on the process of re-evaluating schooling net benefits and returning to school, not the previous decision of dropping out.

Individuals acquire new information and use it to update their evaluation of the net benefits from schooling. New information may pertain to the earnings a high school dropout gives up to attend school (opportunity cost), the earnings advantage a high school graduate has (benefits), the relative instability of employment for a dropout versus a graduate (expected benefits), or preferences about work and school (benefits). Besides these elements, the individual will also factor into his decision attendance costs such as school materials and tuition. The costs are scaled to what remains to be completed, in other words, whether only grade 12 needs to be completed or grades 10 through 12.[13] The costs have to be weighed against financial resources and needs, including new ones, such as living arrangements and dependents.

Other types of constraints may lead to dropping out. Health problems, family problems, personal problems may all make it almost impossible to attend school. Whether facing borrowing constraints or personal problems, the individual may be convinced of the value of schooling and may even aspire to pursue a postsecondary education. She or he may choose to temporarily leave school and plan to return at a later date once the constraints or barriers have eased up. Such temporary leavers would be more likely to return than individuals who have to re-assess the net benefits. The economic research has not paid much attention to these intentionally-temporary dropouts (or stopouts).

Only a few economists have investigated returns or re-enrolments. In the U.S., Light (1995) looks at high school graduates who interrupt their studies before pursuing some postsecondary schooling. A few studies have analyzed schooling interruptions during postsecondary studies, referred to as stopouts, mostly at the university level (see for example, Singwell, 2001 and Stratton et al., 2005). Returns by high school dropouts have received very little attention. In Canada, Bushnik et al (2004) portray returnees as being equally likely to be male or female, more likely to be from Quebec and less likely from Alberta, less likely to be working full-time, and more likely to have parents with a postsecondary diploma. Interestingly, the study also reports that dropouts with postsecondary education aspirations, directly measured by asking what highest diploma or degree they would like to obtain,

were more likely to return. Finally, only Chuang has empirically investigated re-enrolment of dropouts for the U.S. (1994, 1997). He finds that ability as measured by a standardized test, age, the duration of out-of-school period, and local labour market conditions influence the decision to return. Neither family background nor the dropouts' activities during their out-of-school period have much explanatory power in predicting who returns. No study has attempted to explore the phenomenon of intentionally-temporary dropouts and whether returns are more common among them.

3.2 Two distinct groups of decision makers?

As noted above, young men drop out more and are less likely to return to school than young women in Canada. Many studies ignore these gendered-differentiated patterns and the few that note them do not attempt to explain the causes of these differences. For example, Eckstein and Wolpin (1999), Chuang (1994), and Light (1997) focus on men. Ferrer and Lauzon (2005) include a sex dummy variable and note that the gender gap appears to close over time. Parent (2006) conducts a separate analysis by gender but does not offer any explanation for the observed differences.

Yet, quite a few stylized facts have been highlighted in the literature. Parent's work (2001) reveals that women's decision to drop out appears less sensitive to labour conditions or to having worked during high school than men's. Having a child has a greater influence on women's decisions than on men's. Work by Bowlby and McMullen (2002) echoes these findings. Young men cited wanting to work as a reason to leave school more often than young women. Furthermore, male dropouts appear to have a lower academic record, including lower grades and a higher incidence of grade repetition, than their female counterparts (Bushnik et al., 2004). American studies found similar patterns (see Chuang, 1997).

The above evidence suggests that male and female dropouts constitute two distinct groups and most likely, different categories of potential returnees. Men and women experience different circumstances leading to dropping out and appear to differ in preferences for school and work. One can speculate that the proportion of intentionally-temporary leavers varies across gender and the difference may partially explain the gender gap in returns to school. The remainder of the gap would be the result of differentiated preferences for school and work.

4. Returning to school

4.1 Characteristics of dropouts and returnees

Young men and young women have very different incidences of dropping out and of returning to school. In general, profiles of female and male dropouts differ on a few significant dimensions. Table 4.1 presents the characteristics by gender for all dropouts aged 18 to 20 in December 1999. The characteristics are those that may influence the decision to return to school.

Box 4.1

Data and Definitions

The data for this analysis come from the first two cycles of the Youth in Transition Survey, cohort B. The first cycle of this survey took place in 2000, collecting information from respondents who were aged between 18 and 20 years in December 1999. The second cycle took place in 2002 when the same youth were aged between 20 and 22 years.

For the purpose of this analysis, a dropout is any respondent who was not attending school in December 1999 and who had not completed high school.

A returnee or a return-to-school consists of a dropout who attended high school or a postsecondary institution, between January 2000 and December 2002.

All of the personal and family characteristics of returnees and non-returnees used for the analysis are those they had as of December 1999, i.e. previous to their return to school.

For more details, see Appendix B.

The characteristics presented in Table 4.1 are those that are believed to influence the decision to return to school. Two characteristics are used to capture potential budget constraints: living alone and having a child. Having a child (or children) captures the financial responsibilities the individual faces. How the individual values school is captured by parental education. As noted above, parents who have postsecondary credentials tend to value education highly and to impress upon their children the importance of education.

To capture the costs of returning to school, the last grade completed, the time elapsed since leaving school, and having repeated a grade in primary school are used. The more credits required to complete, the longer it will take the returnee to complete his or her schooling. The time elapsed since leaving school captures the costs associated with lost studying habits, and for those working, the opportunity cost of losing the acquired seniority in the current employment by going back to school. Having repeated a grade can be thought of as a proxy for having lower ability and potentially lower self-confidence for academic activities, increasing the costs of returning to school. Finally, the analysis also controls for the reasons dropouts gave for leaving school.

Table 4.1

Descriptive statistics, all high school dropouts[1] and dropouts who returned to school between January 2001 and December 2002

	All dropouts		Dropouts who returned to school	
	Men	Women	Men	Women
	percent	percent	percent	percent
Proportion who returned to school	...	...	26	35
Proportion in sample	61	39	...	...
Personal and family characteristics				
Has one or more children	6	29	3	27
Lives alone[2]	6	24	4	20
Main parent has postsecondary education diploma, certificate or degree	17	20	28	26
Main parent's education unknown	19	13	15	7
Educational experience and aspirations				
Repeated a grade in primary school	35	25	27	19
Last math course was postsecondary education preparatory	52	47	65	58
Last math course was grade 9 level or below	32	34	28	18
Wants to get PSE certification	38	42	57	57
Dropout circumstances				
Last grade completed				
Grade 10 or secondary III or below	49	43	40	29
Grade 11 or secondary IV	43	45	45	54
Grade 12, 13 or secondary V	8	12	15	17
Number of quarters since left school	6	5	5	4
Reason for leaving school				
Academic	41	37	44	38
Personal	7	28	9	36
Want to work/money	33	15	28	9
Other	19	20	19	16
Labour market activities and conditions				
Did not work in the fall of 1999	11	23	10	20
Greatest number of hours worked per month in one job in fall 1999 (among those who worked)	177	131	158	126
Local unemployment rate for 15 year-olds and over (gender-specific, by economic region)	8	8	8	7
Regions				
Atlantic	7	5	7	4
Quebec	34	27	39	20
Ontario	27	34	23	45
Manitoba	4	5	2	4
Saskatchewan	2	2	2	2
Alberta	13	15	11	14
British Columbia	13	11	15	11

... not applicable

1. Defined as 18 to 20 year-olds who had not completed high school and who were not attending school as of December, 1999.

2. Includes living with dependents as of December 1999, compared to living with family, a partner or friends/roommates.

Note: The means are weighted using the design-based bootstrap weights that account for the complexity of the survey sampling method.

Source: Youth in Transition Survey, Statistics Canada.

Three variables are used to capture the opportunity cost of returning to school. The first two capture work activities in the fall of 1999. A dummy variable indicates whether the individual worked at all during the period and if so, how many hours they worked. The last variable, the unemployment rate among those 15 years old or more in the economic region[14] of residence captures the potential supply of jobs.

An intentionally-temporary dropout is captured through the postsecondary education aspirations. The underlying rationale is that an individual wishing to pursue postsecondary education probably did not envisage dropping out. Postsecondary aspirations are measured through two dummy variables: having taken as the last course of mathematics a postsecondary preparatory one (thereafter termed pre-postsecondary mathematics) and having educational aspirations greater than a high school diploma. Having taken a pre-postsecondary mathematics course can be interpreted as past postsecondary aspirations and thus as intentions to complete high school. Pre-postsecondary mathematics courses are more demanding than those designed for students intending to work upon graduation. An individual contemplating to leave school without graduating would likely not choose to take a more-demanding mathematics course.

As can be seen in Table 4.1, columns 1 and 2, fewer women drop out than men and thus, they make up only 39% of the sample. They also return in a greater proportion (35% versus 26%). The circumstances surrounding dropouts are slightly different for men and women. Men drop out at an earlier stage of their secondary schooling than women. Almost half (49%) of male dropouts leave school prior to having completed grade 11, that is, in grade 10 or before compared to 43% of female dropouts. Male dropouts have been out of high school longer, almost 6 quarters compared to 5.2 for women.[15]

Another obvious gender bias lies with the proportions that declared having dropped out due to personal reasons versus want/need to work. The proportion citing leaving school due to personal reasons is four times higher among young female dropouts than among young men. Personal reasons encompass expecting or caring for a child, health problems and having problems at home. In contrast, the proportion of young men who cited wanting/needing to work as the reason for dropping out is double the proportion of young women. Young male dropouts appear more eager to join the labour force than their female counterparts. Alternatively, the expressed need or desire to work on the part of some young men may be driven by or linked to having to provide for a child. It is worth noting that male dropouts engage more in work and work more hours. These work activities do not appear to be driven by local labour market conditions. Indeed, the average local unemployment rate for men was 0.3 percentage points higher than the one for women.

In terms of educational experiences and aspirations, no clear pattern emerges between male and female characteristics. Young men in the sample experienced repeating a grade in primary school in greater proportion. Their postsecondary aspirations are slightly lower than those of female dropouts. Yet male dropouts more frequently choose to take pre-postsecondary mathematics courses, while a greater number of female dropouts have not pursued mathematics beyond grade 9.

A few more differences emerge in the personal and family characteristics. Female dropouts are more likely to have children and to live alone. A greater proportion of male dropouts are unaware of their parent's education levels.[16] As

noted earlier, male and female dropouts face relatively similar labour market conditions as indicated by the unemployment rates. Finally, both male and female dropouts come disproportionately from Quebec and Alberta.

Turning to the characteristics of returnees (columns 3 and 4 of Table 4.1), men and women returning to school tend to differentiate themselves from other dropouts along the same characteristics. Focusing on the variables of interest, that is, the PSE-aspiration variables capturing return intentions, returnees are more likely to have taken a pre-postsecondary mathematics course and to want a postsecondary certification. There is no clear pattern between male and female returnees for these variables. Thus, if the PSE-aspiration variables are to explain the gender gap in return rates, the difference most likely will emerge in the influence of these factors – the past and current postsecondary aspirations – since similar proportions of male and female dropouts have these traits. The next section presents the regression results for the determinants of return controlling for all the characteristics at once for men and women separately and discusses the influence of return intentions.

4.2 What influences young dropouts to return to school?

The decision to return to school is analyzed for young men and women separately using the estimation technique of linear probability modelling (see Box 4.2 for further details). Two models are estimated: one basic model and a second, the full model which includes the educational aspirations and reasons for having dropped out. Table 4.2 presents the results of both models.

Box 4.2

Estimation methodology

The linear probability model (LPM) is an estimation technique that produces results that are very easy to interpret. Results indicate the number of percentage points a given characteristic increases or decreases the probability of return. For example, a coefficient of -0.10 for having a child implies that this characteristic decreases the probability of return by 10 percentage points from the average. This ease of result interpretation justifies the use of the LPM technique despite the possibility of predicting negative and greater-than-one probabilities. The proportion of probabilities falling outside the zero-one range is calculated and reported. For validation of the results, the model is also estimated using the probit model.

Two specifications are estimated: one excluding the current postsecondary aspirations and the reasons for dropping out (the basic specification) and the other which includes these two variables (the full specification). These two variables may potentially introduce endogeneity problems. Current postsecondary aspirations may have changed between the dropping out of school and the time of the survey. Individual aspirations may have been altered by the same factors as those that influence the decision to return to school. Similarly, the reasons the individual gives at the time of the survey may have been altered by the individual's experience out of school and the decision to return or not. The estimation strategy takes into account this potential problem by estimating the two specifications and testing for endogeneity.

LPM results are presented here; results for the alternative estimation technique, the probit analysis, are found in Appendix Table A.3.1. The p-values are found below the coefficients. The proportion of predictions outside the 0-1 interval is indicated at the bottom of the table. Overall, the LPM produces no more than 5% of the predictions outside the 0-1 interval and all the erroneous predictions are negative return probabilities.

The results from the basic regression model reveals that the determinants of school returns are perfectly gender-specific, i.e. no one factor significantly affects both the male and the female decisions, including the proxy for intentionally-temporary departures and having taken a pre-postsecondary mathematics course (found under the category "Educational experience and aspirations"). Male dropouts who took a pre-postsecondary math course are 15 percentage points, or 60%, more likely to return to school than those who did not take such a course. This suggests that a non-negligible proportion of male dropouts had the intention to pursue some form of postsecondary education and thus most likely left high school before graduation with the intention of returning. Women, on the other hand, are not influenced by past school preparation. If past pre-postsecondary mathematics courses influenced women the same way as they do men, the gender gap in returns would have been greater than its current 10 percentage-point difference.

Besides past academic preparation, men are also influenced by a few factors while women by only two – how long they have not been in school and being unaware of their parent's education level. Indeed for every quarter that young women stay out of school, their likelihood of returning is 6.7 percentage points lower than if they had returned the quarter before. As important, ignorance of parental education levels is associated with a lower probability of return. While ignoring the parental education probably does not influence directly the decision to return, it probably is indicative of the emphasis put on education in the home environment. No other determinant appears to influence women's decision to return to school, including having a child or the number of hours worked in a month.

In contrast, various factors influence men's decision to return. The most important factor is having dropped out in grade 12 rather than in an earlier grade. Dropouts with some grade 12 courses are only a few credits/courses away from graduation, implying lower opportunity costs of obtaining their high school diploma or of pursuing college studies. They are twice as likely to return as young men who dropped out in grade 11 or earlier.

Other factors influencing men include having a child and/or having a parent with a postsecondary diploma or degree. Having parental responsibilities negatively affects the decision of returning to school for young men, diminishing the return probability by 10 percentage points. The need to earn a living probably explains the influence of having a child on the decision. Interestingly, parental obligations do not influence young women's decision to return to school.

Unlike having parental responsibilities, working does not constitute a very influential deterrent for men. Working an additional 40 hours in a month, the equivalent of a week, lowers the probability of return by only 4 percentage points. On the other hand, those who do not work at all are also less likely to return to school. This result suggests that the reasons leading young men not to work may also stand as a barrier to return to school.[17]

Finally, parental education exerts as strong an influence as grade repetition or having a child, such that it could nullify either. Indeed, a parent with postsecondary certification encourages returns, increasing the return probability by 18 percentage points or 70%.

Table 4.2

Linear probability model results for the decision to return to school

	Basic specification				Full specification			
	Men		Women		Men		Women	
	coefficient	p-value	coefficient	p-value	coefficient	p-value	coefficient	p-value
Personal and family characteristics								
Has one or more children	-0.100*	0.090	0.080	0.420	-0.100	0.130	0.050	0.550
Lives alone[1]	-0.060	0.330	-0.040	0.590	-0.070	0.320	-0.070	0.360
Main parent has postsecondary education diploma, certificate or degree	0.180***	0.000	0.040	0.600	0.140**	0.010	0.010	0.840
Main parent's education unknown	-0.004	0.940	-0.100*	0.070	-0.020	0.630	-0.120*	0.070
Educational experience and aspirations								
Repeated a grade in primary school	-0.060	0.210	-0.070	0.370	-0.040	0.420	-0.060	0.340
Last math course was postsecondary education preparatory	0.150***	0.010	0.040	0.660	0.130**	0.010	0.030	0.740
Last math course was grade 9 level or below	0.110	0.120	-0.140	0.140	0.090	0.190	-0.140	0.130
Wants to get postsecondary education certification[2]	...	...	...	...	0.130***	0.000	0.160***	0.010
Dropout circumstances								
Dropped out in: (default: Grade 10 or earlier)								
Grade 11	0.030	0.630	0.000	0.970	0.010	0.870	-0.010	0.900
Grade 12	0.260***	0.010	0.040	0.660	0.230**	0.010	0.040	0.660
Number of quarters since out of high school	-0.010	0.430	-0.070***	0.001	-0.010	0.500	-0.060***	0.002
Number of quarters squared	0.001	0.470	0.003**	0.010	0.001	0.520	0.000***	0.010
Dropped out due to: (default: work/money reasons)								
Academic reasons	...	...	...	...	0.030	0.490	0.110	0.110
Personal reasons	...	...	...	...	0.070	0.410	0.150*	0.070
Other or unstated reason	...	...	...	...	-0.020	0.680	-0.020	0.780
Labour market activities and conditions								
Did not work	-0.170*	0.070	-0.100	0.360	-0.150	0.110	-0.100	0.280
Every 40 hours of work per month (August-December 1999)	-0.040***	0.000	-0.020	0.330	-0.030***	0.000	-0.020	0.220
Unemployment rate (0 to 1, by economic region)	0.290	0.710	0.170	0.860	0.390	0.620	0.530	0.590
Constant	0.270	0.010	0.720	0.000	0.190	0.090	0.540	0.000
Proportion of predictions outside [0,1] (%)	3.6		3.5		4.9		5.1	
Probability of return (%)	26.0		35.0		26.0		35.0	
Number of observations	961		626		961		626	

... not applicable

* Significant at 0.1 level.

** Significant at 0.05 level.

*** Significant at 0.01 level.

1. Includes living with dependents as of December 1999, compared to living with family, a partner or friends/roomates.
2. Current PSE intentions are measured as of December 1999, thus prior to the period for which returns-to-school are observed.

Notes: All the underlying standard errors were calculated by bootstrap estimation to fully account for the sampling methodology of Statistics Canada.

The means are weighted using the design-based bootstrap weights that account for the complexity of the survey sampling method.

Regional dummies were included in all of the regressions with the default being Ontario. No regional effect was found to be statistically significant at a 10% level or better.

Box 4.3

Alternative model specifications

Other regression models were estimated, including one without the number of quarters since out of high school. This variable, along with the last grade enrolled in, characterize the timing of dropping out and could create problems of multicollinearity. No evidence of the latter was found. Anther specification included a proxy for ability, the grade-point average (GPA). This categorical variable did not exhibit any explanatory power, with p-values ranging from 40% to 95%. A few things may explain this lack of explanatory power. First, the GPA is self-reported and hence, individuals may not report it accurately, especially if embarrassed by it. Second, the GPA reported is for the last grade completed. The individuals left school at different points of their schooling (anywhere between grade 9 and grade 12). Obtaining a B in grade 9 versus in grade 11 probably does not mean the same thing about the individual's abilities. Having stayed in school until grade 11 probably indicates better abilities. Thus, the last grade completed was retained in the final specification, while the GPA was dropped.

The full specification, in the last two columns of Table 4.2, introduces current postsecondary intentions (labelled "wants to get PSE certification" under "Educational experience and aspirations") and the reasons that led dropouts to leave school. The inclusion of current postsecondary aspirations and reasons for dropping out does not seem to alter significantly any of the results. Hausman tests cannot reject the hypothesis that the inclusion of these variables creates problems of endogeneity. The p-values are 0.998 and 0.247 for men and women, respectively. In other words, the full specification provides valid results.

The results point to a large influence of wanting to have a postsecondary education for both men and women. The influence of postsecondary aspirations is as large as that found for parental education for young men. It can be further noted that this factor appears to be more important for female dropouts than for males. The difference, however, is not statistically significant.[18] Assuming that postsecondary aspirations have not or have only minimally changed since the time of dropping out, this result offers some evidence that those who deemed their school departure to be temporary are indeed more likely to return.

The reasons that drove young men to drop out do not affect their decision to return. In contrast, the reasons for dropping out distinguish which young women return. Those who left due to personal circumstances – including expecting or having a child – as opposed leaving to go work are more likely to return. They return more often than those who left to go to work by 15 percentage points. Those who quit school due to academic reasons are aiso more likely to return by 10 percentage points – the result is significant at 11% – than those who quit due to work-related reasons. This result appears to indicate that a good proportion of females who left for academic reasons re-consider the benefits and costs of schooling once they leave and assess the net benefits of schooling as being positive. Possibly, those who left school for work may reconsider the net benefits, but still evaluate them as non-positive or face financial constraints prohibiting them from returning to school.

The other determinants of the decision to return to school remain mostly unaltered for both men and women. For young men, the determinants that were significant at the 10% level in the basic specification lose some explanatory power (having a child and not working) but overall, the results are left unaffected by the

introduction of the current postsecondary aspirations and the reasons for having dropped out.

It is interesting to note that the state of the labour market does not influence the return decision of either men or women. Various measures of labour market conditions have been tested: the unemployment rate of 15 to 24 year-olds, the industrial composition of the labour market, and the demand for skills as proxied by the percentage of workers with a postsecondary diploma or degree. The results remain the same. This lack of influence on the return to school contrasts with findings for the causes of dropping out. Parent (2006) explains the work decisions of high school students using the unemployment rate and shows that the better the labour market conditions are, the higher the hours worked by high school students leading to higher dropping out rates. However, Ferrer and Lauzon (2005) present evidence that younger cohorts have become less sensitive to labour market conditions in their decision to drop out. The lack of influence of this variable in the present results might be caused by an insufficient variation in the measure of labour market conditions. Further research with additional years of data would be necessary to have sufficient variation in the data to conclusively establish the role of labour market conditions in returning to school.

In closing, returns to school are determined by different factors for young men and women. Yet they share having significant postsecondary aspirations. Their postsecondary aspirations and the past academic preparation for men increase the probability of returning to school, suggesting that dropping out was viewed by the individual as a temporary absence from school rather than as a permanent departure. All of the above suggests that dropping out is, for a significant number of individuals, only a temporary interruption of schooling.

4.3 And were the returns successful?

Dropouts may return to school, but the question is: was the return successful in leading to a completed diploma or certificate? Table 4.3 presents the proportion of returns by school type and school status in December 2002.

Roughly two thirds of returnees chose to go back to high school while the remainder preferred to pursue a postsecondary diploma. Women chose in a higher proportion than men to pursue postsecondary studies (43% and 33%, respectively). In aggregate, some 26% and 32% of male and female returnees, respectively, successfully completed their studies and graduated. Almost 40% left again without completing their certification and some 37% of men and 33% of women were still attending school. The high proportion of failed returns suggests that individuals face further hurdles to completing than just returning to school.

Table 4.3
Outcome of the return to school, as of December 2002

	Men	Women
	percent	
Proportion who returned	26	35
School type of return		
High school	17	20
Postsecondary education institution	9	15
Overall status		
Graduate	7	11
Continuer	10	12
Left without completing	10	12

Source: Youth in Transition Survey, Cycle 2, Statistics Canada.

Excluding those still attending school, the proportion of second-time dropouts account for more than half and about half of male and female returnees. Further research should pay attention to the reasons why not all returns to school are successful.

5. Conclusion

Dropping out of high school is for some, not a "permanent" condition; they drop out of school but later return with the intention of completing their studies. The second-chance system offers the opportunity to dropouts to indeed go back and complete the requirements for their high school diploma. A significant number of dropouts take advantage of the second chance system; some 29% of young high school dropouts aged 20 to 24 returned to school in 2004/2005. Young women take more advantage of this opportunity than men. Approximately 35% of women returned to school compared to 26% of men.

This paper examines the extent to which returns are made up of dropouts who viewed their leaving as temporary, i.e. had aspirations to obtain some postsecondary education. Furthermore, the paper explores the sources of the gender gap in high school returns. The analysis finds that very few factors influence young women's decision to return. These factors pertain mostly to the circumstances that brought them to leave school in the first place, their aspirations for obtaining a postsecondary education, and the time elapsed since they left school. On the other hand, young men's return to school depends on their labour market experience, past academic experience and decisions, along with postsecondary aspirations. For both women and men, results suggest that whether the absence from school was considered temporary, as captured by their postsecondary aspirations and having taken a pre-postsecondary mathematics course in high school, is a major determinant of the return decision.

Future research should pay attention to two issues raised in this paper. First, the timing of the return seems crucial for women: the more time elapsed since they left high school, the less likely they are to return. This observation begs the question of whether the timing of return is universally important for all female dropouts or for a particular sub-group. Young women may face new obstacles to returning as their situation changes. Such work could explore for example the impact of parental responsibilities and possible financial obstacles. The second issue necessitating further work is to understand why anywhere between 50% and 60% of returns – putting those still enroled aside – do not succeed in obtaining a diploma or certificate. These individuals demonstrated a desire to obtain a diploma by returning to school and yet, do not succeed in meeting their goal. What stands in the way of returnees? Does the second-chance system really meet their needs? Future cycles of YITS will help to further the understanding of patterns of re-enrolments and further dropouts.

Appendix 1

Calculating dropout rates

Carefully defining the term "dropout" and understanding the nature of the data at hand are both extremely important when calculating a dropout rate, as small differences in data sources and concepts can result in fairly significantly different rates. The first consideration is the nature of the data: administrative, survey or census. Then, one needs to be clear as to what the variables used are. Finally, these issues have a different bearing on the dropout rate depending on the age group of interest. This appendix attempts to illustrate how these considerations can alter the resulting dropout rate. For the purpose of this discussion, a dropout is an individual without a high school diploma and not attending school.

The type of data at hand may influence the dropout rate. Administrative data, from school boards, for example, have the advantage of constituting a census of all students. Often, the education literature and provincial education departments use administrative data to estimate a dropout rate. The drawback, however, lies in that departures due to moving (leaving the school board district and moving into another one) cannot always be distinguished from actual dropouts. For this reason, administrative data tend to overstate the dropout rate. Survey data avoids this problem by asking questions on education independently of the whereabouts of individuals. However, it tends to exclude some of the population at risk such as Aboriginals, the institutionalized population, and the population of the territories. As a consequence, survey data tend to underestimate the overall dropout rate. Finally, the Census offers both the advantage of precisely identifying dropouts and more complete coverage. For example, Bowlby (2005), using the LFS, calculates a dropout rate of 11% among 20 to 24 year-olds for the academic year 2000/2001 while the 2001 Census suggests a rate of 13.7%.[19]

Both surveys and the Census require clearly defining the term dropout and explaining the questions on which the calculations are based. The definition is most likely to be a function of the information (variables) available in the data. Some surveys only ask about educational attainment (or the highest degree completed) while others inquire in two separate questions about the highest degree completed and high school certification. Given that it is possible to obtain a postsecondary diploma without completing a high school diploma, these two approaches inevitably lead to different answers. Finally, those enroled to complete a high school diploma should not be counted as dropouts, yet not all data sources allow the simultaneous identification of high school graduation and current enrolment.

To understand their impact on the dropout rate, Table A.1 illustrates the issues raised above. The population of individuals without a high school diploma can be divided into four groups along two dimensions: attendance and highest diploma

obtained. Among those without a high school diploma, some may have gone back to school.

Table A.1

Classification of those without a high school diploma

	Without postsecondary education diploma	With postsecondary education diploma
Not attending	A	B
Attending	C	D

If all four groups make up the numerator, the resulting rate is called a "non-completion" rate, including both dropouts and current students. Depending on the age group studied, including the "currently attending" (groups C and D) results in the non-completion rate diverging by a large margin from the dropout rate. To illustrate this, Table A.2 gives the attendance rate, the dropout rate including both groups A and B and the resulting non-completion rate for individuals aged 18 to 20.

Table A.2

Attendance, dropout and non-completion rates, 18 to 20 year olds, 1999

	18 years old	19 years old	20 years old
		percent	
Still attending	27.3	7.8	3.3
Dropout rate	10.3	11.8	12.0
Resulting non-completion rate	37.6	19.6	15.3

Source: The data on attendance and dropout rates come from Bowlby and McMullen (2002).

Some 27% and 8% of 18 and 19 year-olds, respectively, still attended school in December 1999. Hence, the non-completion rates were, respectively, 37.6% and 19.6% compared to dropout rates of 10% and 12%. Confusing these two rates is a common mistake that has large implications for the high school-aged population, the 15 to 19 year-olds. Starting at the age of 20, school attendance decreases dramatically to 3%. Hence, using the non-completion rate instead of the true dropout rate slightly overstates the dropout rate. Similarly, attendance among the 20 to 24 year-olds was 2% to 3% throughout the 1990s and 2000s, such that the non-completion rate was very close to the dropout rate.[20] Hence, without school attendance information, only the non-completion rate can be calculated. This rate will only be a few percentage points higher than the dropout rate for individuals aged 20 and over and could be used with the appropriate caveats clearly stated.[21]

Whenever possible, the dropout rate should be only calculated using the non-attending groups. Depending on the data, one may not be able to identify group B in Table A.1. More specifically, data capturing only the educational attainment or highest diploma or degree attained classifies group B as postsecondary diploma holders and the fact that they have not obtained a high school diploma is ignored. Such data make it impossible to calculate return incidences of high school dropouts. It also suggests a lower incidence of dropout. Bowlby (2005), using highest schooling attained to identify dropouts rather than high school completion, reports dropout rates that are 1.5 to 2.8 percentage points lower than those reported in Chart 2.1 using the same data source.

Appendix 2

Definitions and data limitations

For the purpose of this analysis, the data are drawn from the first two cycles of the Youth in Transition Survey for the older cohort (Cohort B, age 18 to 20 in December 1999). This longitudinal survey permits the identification of individuals without a high school diploma and out of school (dropouts). It provides a wealth of information about these dropouts, their family background, academic history, schooling aspirations, and work experience. It also collects information about any schooling event (enrolment, dropping out, graduation).

The sample for this analysis consists of individuals aged 18 to 20 years who had dropped out of high school with no credential and who were not in school in December 1999. High school dropouts who were enrolled in a postsecondary program or who had obtained a postsecondary diploma were thus excluded.[22] Cycle 1 of the survey was carried out in 2000.

The second cycle of the survey took place two years later (2002). The response rate was 74% for high school dropouts for Cycle 2, bringing down the original sample size of 2,350 high school dropouts in December 1999 to 1,716 in December 2001. The sampling weights were adjusted to take into account this attrition. These weights are used throughout the analysis.[23]

High school dropouts tend to frequently answer "(I) don't know" or do not state an answer. To minimize the loss of observations, these non-responses were not systematically put to a missing. Two variables had especially high rates of non-response: parental education and the reason for dropping out. In the case of parental education, 17% answered "don't know" and thus a separate dummy was created to capture these non-responses. As for the reason for having dropped out, 12% answered "other reason" than those listed and 6% did not answer. These two categories were collapsed into one and the observations were kept. The final sample consists of 1,587 observations.

For the purpose of the analysis, a return is defined as any return to school between January 2000 and December 2001, whether the individual enrolled in high school or in a postsecondary education institution (community college, technical college, private technical institute or university). Three variables were used to construct the dependent variable: high school status in December 2001, postsecondary education status in December 2001, and having cited a last province of primary or secondary school attendance for attendance between January 2000 and December 2001. The first two variables allow for the identification of those who had graduated from either high school or a postsecondary institution by December 2001, those who were currently enroled in either type of institution, and those who had enroled at any point during the two years in a postsecondary institution but left without

completing. The province variable identifies those who enroled in high school at any point during the two years but left without completing.

Data limitations meant that this definition of return does not distinguish between whether the individual went back to high school or enroled in a postsecondary institution. There are important differences in the second-chance system across provinces. Some provinces have extensive adult education programs in high schools, while others do not; the same is true at the college level. In four provinces, close to 15% of the dropouts chose to enrol in a postsecondary institution instead of returning to high school; in New Brunswick and Manitoba, less than 1% followed that route. A provincial analysis would be necessary to tease out the factors influencing the choice of program (high school diploma versus a postsecondary certification) beyond the availability of either program type. Unfortunately, the low number of observations per province makes this analysis impossible.

All the independent variables used in the study are the characteristics of individuals as of December 1999, the moment when the individual is identified as a high school dropout.

It should be noted that the variable "wants to get PSE certification" is based on two questions in the YITS questionnaire. Both questions about what level of schooling the respondents would like and expect are used. The "would like" question is the primary data point. When the respondent did not give a reply, the answer to the second question is used. The possible answers range from "some high school or less" to a "Ph.D.". For the purpose of the analysis, the information is transformed into a dummy variable capturing any type of postsecondary diploma (including trade and vocational diploma as well as college and university diplomas and degrees).

Finally, the variable pre-postsecondary mathematics requires including a dummy for dropping out prior to grade 10. Pre-postsecondary mathematics courses are offered in grade 10 in all provinces where it exists, except in Ontario, where it starts in grade 9. Some individuals may have left school prior to grade 10 and thus could not have taken a pre-postsecondary mathematics course.

Appendix 3

Table A.3.1

Results of probit estimation of the decision of high school dropouts[1] to return to school

	Basic specification						Full specification					
	Men			Women			Men			Women		
	coef-ficient	marginal effect	p-value	coef-ficient	marginal effect	p-value	coef-ficient	marginal effect	p-value	coef-ficient	marginal effect	p-value
Personal and family characteristics												
Has one or more children	-0.36	-0.10	0.20	0.23	0.08	0.45	-0.35	-0.09	0.22	0.17	0.06	0.57
Lives alone[2]	-0.23	-0.07	0.37	-0.12	-0.04	0.66	-0.27	-0.07	0.33	-0.18	-0.06	0.49
Main parent has postsecondary education	0.53	0.18***	0.00	0.11	0.04	0.61	0.42	0.14**	0.02	0.04	0.01	0.86
Main parent's education unknown	-0.02	-0.01	0.92	-0.40	-0.13	0.11	-0.08	-0.02	0.67	-0.41	-0.13	0.12
Educational experience and aspirations												
Repeated a grade in primary school	-0.21	-0.06	0.21	-0.24	-0.08	0.33	-0.14	-0.04	0.40	-0.23	-0.08	0.32
Last math course was postsecondary education preparatory	0.60	0.18**	0.01	0.11	0.04	0.67	0.55	0.16**	0.02	0.06	0.02	0.81
Last math course was grade 9 level or below	0.50	0.16*	0.09	-0.44	-0.15	0.14	0.44	0.14	0.14	-0.47	-0.16	0.11
Wants to get postsecondary education certification	...	...	..	..	...	..	0.43	0.14***	0.00	0.47	0.17**	0.01
Dropout circumstances												
Dropped out in: (default: Grade 10 or earlier)												
Grade 11	0.13	0.04	0.52	0.00	0.00	1.00	0.07	0.02	0.75	-0.02	-0.01	0.91
Grade 12	0.77	0.28***	0.01	0.11	0.04	0.71	0.68	0.24**	0.02	0.11	0.04	0.73
Number of quarters since out of high school	-0.02	-0.01	0.72	-0.20	-0.07***	0.00	-0.02	-0.01	0.69	-0.19	-0.07***	0.00
Number of quarters squared	0.00	0.00	0.97	0.01	0.00**	0.02	0.00	0.00	0.88	0.01	0.00**	0.02
Dropped out due to: (default: work/money reasons)												
Academic reasons	...	...	...	...	...	...	0.08	0.02	0.65	0.36	0.13	0.16
Personal reasons	...	...	...	...	...	...	0.23	0.07	0.51	0.45	0.17	0.11
Other or unstated reason	...	...	...	...	..	..	-0.11	-0.03	0.59	-0.02	-0.01	0.93
Labour market activities and conditions												
Did not work between August and December 1999	-0.60	-0.15**	0.06	-0.30	-0.10	0.35	-0.56	-0.14*	0.08	-0.37	-0.13	0.24
Every 40 hours of work per month (August to December 1999)	-0.14	-0.04***	0.00	-0.06	-0.02	0.33	-0.13	-0.04***	0.00	-0.07	-0.03	0.25
Unemployment rate (0 to 1, by economic region)	0.98	0.30	0.71	0.41	0.15	0.90	1.26	0.38	0.64	1.46	0.53	0.66
Probability (false prediction) (%)		34.0			35.9			33.3			32.3	
Probability of return (%)		26.2			35.0			26.2			35.0	
Number of observations		961			626			961			262	

... not applicable

* Statistically significant between 0.10 and 0.05.

** Statistically significant between 0.05 and 0.01.

*** Statistically significant at 0.01 or lower.

1. Defined as 18 to 20 year-olds who had not completed high school and who were not attending school as of December, 1999.
2. Includes living with dependents as of December 1999, compared to living with family, a partner or friends/roomates.

Notes: All the underlying standard errors were calculated by bootstrap estimation to fully account for the sampling methodology of Statistics Canada.

Regional dummies were included in all of the regressions with the default being Ontario. No regional effect is found statistically significant at a 10% level or better.

The marginal effects are estimated at the means of the explanatory variables (as found in Table 4.1).

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Endnotes

1 The unemployment rate for high school dropouts (for the age group 15 years and over) oscillated between 12% and 17% while the national unemployment rate fluctuated between 7% and 11% during the period. Source: table 282-0004 in Cansim, Statistics Canada.

2 Social costs are also important. A study by the Conference Board of Canada (Lafleur, 1992) estimated that 140,000 dropouts – or roughly 5,000 more than the number of Canadian dropouts aged 20 to 22 in 2001 – cost near $4 billion over their working lifetime in 1989, which, put in current dollars, corresponds to $58.7 billion in 2005.

3 Calculated by the author using the first two cycles of the Youth in Transition Survey, Cohort B, of Statistics Canada. This proportion excludes the individuals who were enrolled in PSE or had already completed a PSE certificate in 1999. When these individuals are not excluded from the calculations, as calculated by Zeman, Knighton and Bussière, the return rate reaches 27%.

4 The higher return rates among young women probably explain partially their lower dropout rate at the age 20.

5 The total population for the 20 to 24 year-olds corresponds to the population for the calendar year and not the academic year. In the calculations, the academic year-based data are divided by the corresponding full year. For example, the dropout rate uses the number of dropouts in the academic year 1990-1991 divided by the total population for 1990.

6 The definition of a dropout in this section corresponds to individuals from groups A and B in Figure A.1, those without a high school diploma not attending school.

7 Bowlby (2005) presents dropout rate also based on the Labour Force Survey. His dropout rate is based on the highest educational attainment (highest diploma or degree achieved) and thus excludes those without a high school diploma who have completed a PSE diploma from the numerator of the rate. Approximately two to three percent of all 20 to 24 year-olds do not have a high school diploma and do have a PSE diploma. As such, the numbers presented here are higher by two to three percent than those of Bowlby.

8 The Labour Force Survey gathers information about school attendance, whether attendance was full-time or part-time, and the kind of school attended. The respondent has a choice of primary or secondary school; community college, junior college, or CEGEP; university; and other.

9 The largest increase has been in university programs, most likely university certificates targeted to mature students. Most of the increase took place since 2000/2001 for women and 2003/2004 for men, with the increase being strongest for women. It is unclear if this trend will hold. It should be further noted that employer-sponsored courses would also be captured in the data.

10 This section discusses dropping out and returning to school from the economics literature perspective. Dropping out has been described as a "fading out" process. See Gilbert, S., L. Barr, W. Clark, M. Blue and D. Sunter "Leaving School: Results from a National Survey Comparing School Leavers and High School Graduates 18 to 20 years of age." Human Resources Development Canada and Statistics Canada, no 81-575E. 1993.

11 Bushnik et al, (2004) show that future dropouts at the age 15 had significantly lower results on PISA for reading, a standardized test from the OECD, than students who later graduated. Male dropouts exhibit even lower scores than female dropouts.

12 Additional modifications can be brought to the human capital investment model to allow for changing preferences over time. This modification permits to account for social pressures and other environmental factors that may lead youth to drop out.

13 The "leftover" schooling to complete also applies for an individual choosing to pursue a college degree as s/he will most likely have to go through an academic upgrading program based on what s/he is missing.

14 The concept of economic region is defined by Statistics Canada and is used for the analysis of the labour force. It covers the geography of one or many census divisions depending on the population density.

15 The number of quarters out of high school is measured as of December 1999 and includes the summer quarters.

16 When those ignorant of their parent's education are excluded, the proportions of men and women whose parent has a PSE diploma are 21% and 23% respectively.

17 The decisions to work and to go to school are most likely contemporaneous. The difficulty here is to determine whether these decisions are done ahead of time or not. A much more elaborate decision model would be required to explore these issues, but is unwarranted for the testing of the present hypothesis of involuntary leavers returning. It should be noted that instrumentation of working or not in the fall of 1999 was tested using the unemployment rate following Parent (2006) along with provincial dummies. Other attempts used the share of primary industries in the local labour market, calculated using the number of people employed by industry over the total employed in the 2001census. Both types of instruments turned out to be ineffective.

18 This was tested by running one model for both sexes in which gender was interacted with PSE aspirations. The interaction term is not statistically significant with a z-statistic of 0.35 (calculated by bootstrap).

19 The census also includes non-permanent residents. It is unclear whether there is a higher incidence of non high school graduation among non-permanent residents than among the rest of the population. Hence it is not possible to evaluate how the inclusion of this group in the calculations affects the dropout rate.

20 Ideally, only those enrolled at the secondary level should be excluded from the calculations if dropping out is defined as meaning groups A and B. If a dropout implies only individuals from group A, then all attendance should be excluded from the calculation of the dropout rate.

21 Some authors in the education literature will make further distinctions. For example, individuals attending regular high school after dropping out are not considered dropouts but those attending adult school or diploma equivalency program are still counted as dropouts. In such a case, the dropout rate would fall between the non-completion rate and the dropout rate as defined here.

22 There are 189 high school dropouts who were enrolled in or had completed a postsecondary education diploma in December 1999. These individuals are eliminated from the sample as several pre-return characteristics were not collected. Referring to the Figure A1 in Appendix A, the sample is made exclusively of group-A individuals.

23 The re-weighting took into consideration personal, familial and geographic characteristics. The re-weighting was done at the provincial level. Quick comparison of the dropouts found in Cycle 1 only and those found in both cycles reveals very little difference, with the exception of not knowing the last grade completed (less likely to have responded in Cycle 2). See Raymond (2003) for details about the re-weighting procedure done by Statistics Canada to adjust for the attrition.

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